

REQUEST FOR PROPOSAL
FOR
SYNTHETIC IN-FILLED ATHLETIC TURF
AT
CLEM LEMIRE RECREATIONAL COMPLEX
NEWINGTON, CONNECTICUT

November 15, 2010

MMI #1819-11-3

PROPOSAL REQUIREMENTS

TOWN OF NEWINGTON
REQUEST FOR PROPOSALS NO. 2, 2010-11
SYNTHETIC IN-FILLED ATHLETIC TURF
CLEM LEMIRE RECREATIONAL COMPLEX
NEWINGTON, CONNECTICUT

Legal Notice

The Town of Newington is soliciting qualifications and proposals from qualified synthetic turf manufacturers to supply and install synthetic in-filled athletic turf at the football field at the Clem Lemire Recreational Complex. Qualifications shall be submitted to the Town Manager's Office, 131 Cedar Street, Newington, CT 06111 no later than 2:30 PM on December 9, 2010. Information and proposal requirements are available in the Town Manager's Office, 131 Cedar Street, Newington, CT 06111 and on the Town's website, www.newingtonct.gov, in the Doing Business, Current Bids section. The Town reserves the right to reject any or all proposals.

Process

One or more synthetic turf manufacturers will be invited to present their qualifications to the Clem Lemire Artificial Turf Field Project Building Committee on the evening of December 16, 2010 at which time a fee proposal will also be presented. The final selection will be based on both the qualifications of the manufacturer and the cost of the product that best meets the needs of the Town of Newington (the Town). The successful company's name and cost will then be included in the final plans and specifications for the construction of the project, which is expected to be solicited for bid and constructed during the upcoming construction season.

Project Description

The multi-use natural grass athletic field at the Clem Lemire Recreation Complex was constructed in the early 1990's and is currently used for football and soccer. The Town intends to replace the natural grass field synthetic athletic turf having a sand-rubber in-fill. As illustrated in the preliminary plans, a track edge drain will be installed along the northwest edge of the field. A flush concrete curb will be installed along the remaining three sides of the field. Both the edge drain and the curb serve as the anchor for the synthetic turf fabric.

The Town, through this Request for Proposals (RFP), will select one synthetic turf manufacturer to supply and install a synthetic turf product at the cost established by this RFP. The selected turf product will be specified in the Construction Documents as the only source for synthetic turf. The synthetic turf manufacturer will furnish and install their product as a subcontractor to the site contractor having the lowest qualified bid. The successful synthetic turf manufacturer shall also be required to attend a pre-bid meeting to answer any questions of prospective bidders for the site work and to coordinate with the site contractor during the preparation of the dynamic stone base for the synthetic field surface.

Nondiscrimination

The Contractor shall agree and warrant that it will not discriminate or permit discrimination against any person or group of persons on the grounds of sex, race, color religion, age, marital status, ancestry, national origin, past history of mental disorder, mental retardation or physical disability or other basis in any manner prohibited by the laws of the United States, the State of Connecticut, or the Town of Newington.

Hold Harmless

The Contractor agrees to indemnify, defend and hold harmless the Town of Newington and its respective officers, employees, agents and/or servants against all demands, claims, actions or causes of actions, losses, damages, liabilities, costs and expenses, including without limitation, interest, penalties, court costs and reasonable attorney's fees, asserted against, resultant to, imposed upon or incurred by the Town of Newington resulting from or arising out of:

1. Any breach by the Contractor of the terms of the specifications, or
2. Any injuries (including death) sustained by or alleged to have been sustained by the officers, employees, agents and/or servants of the Town of Newington or the Contractor or subcontractors or material men, or
3. Any injuries (including death) sustained by or alleged to have been sustained by any member of the public or otherwise any or all persons, or
4. Any damage to property, real or personal, (including property of the Town of Newington or its respective officers, agents and servants)

caused in whole or in part by the acts or omissions of the Contractor, any subcontractor or any material men or anyone directly or indirectly employed by them while engaged in the performance of any work for the Town of Newington.

Insurance

The Contractor shall furnish a certificate of insurance to the Town Manager for the following insurance coverage within ten (10) days from contract execution. All insurance coverage shall be written with an insurance company licensed to conduct business in the State of Connecticut. Insurance coverage shall remain in full force for the duration of the contract term including any and all extensions. Such certificate of insurance shall specify that the Town of Newington will receive thirty (30) days notice of any cancellation, non-renewal or reduction in coverage and limits originally provided.

1. Commercial General Liability including Premises-Operations, Independent Contractors, Blanket Contractual, Products and Completed Operations:

\$1,000,000 Each Occurrence
\$2,000,000 Aggregate

Combined Single Limit for personal injury or property damage or both combined.

Such policy shall name the Town as additional insured.

2. Comprehensive Automobile Liability covering owned, non-owned, hired or leased vehicles.

\$1,000,000 Each Accident

Combined Single Limit for bodily injury or property damage or both combined.

3. Workers Compensation Insurance in accordance with Connecticut State Statutes.

Employers' Liability Limit - \$100,000.

Other

The Town reserves the right to waive informalities or to reject any or all proposals when such action is deemed to be in the best interests of the Town. The Town reserves the right to delete such items as it deems necessary from these proposals. All exceptions of the respondent to the terms and specifications of this RFP shall be made in writing and submitted in full with the proposal. For all other terms and specifications, submission of a proposal constitutes acceptance by the respondent. The Town reserves the sole right to reject proposals which contain exceptions that are unacceptable. The Town reserves the right to utilize some, all, or none of the various services or products identified in this RFP. All services performed shall be to the satisfaction of the Town Manager. The Town reserves the right to terminate any agreement upon ten (10) calendar days notice of failure by the respondent to provide service to the satisfaction of the Town Manager.

Submittals

Synthetic turf manufacturing firms wishing to be considered shall submit eleven (11) copies of their concisely worded submittal package, consisting of 1.) a letter of interest, together with general information on the firm and proposed subcontractors, 2.) experience of the firm, 3.) a list of successfully completed fields that demonstrates compliance with Item 2-131, section 1.5 Quality Assurance (below), 4.) a sample of the manufacturer's synthetic turf to be installed that meets the attached specifications and requirements, 5.) a draft copy of the full warranty policy and forms, and 6.) any other documentation to comply with the requirements of Item 2-131, section 1.4 Submittals, parts B and C (below). Only one sample (not 11) of the manufacturer's synthetic turf should be submitted. The list of successfully completed fields shall clearly identify the product installed, including any model, style, pile height and/or other distinguishing characteristics. Submittals shall be based on the format and requirements set forth in this Request for Proposals. These shall be addressed to:

Town Manager's Office
131 Cedar Street
Newington, CT 06111

Submittals shall be accepted until 2:30 pm. on December 9, 2010. All submittals shall be clearly labeled "RFP No. 2, 2010-11, Synthetic In-Filled Athletic Turf."

Only those firms invited to interview with the Project Building Committee shall submit the two page Proposal Form included at the end of this Request for Proposals document. Pricing shall be for the same model, style quality, etc. as the sample of synthetic turf submitted. If more than one

sample is provided, pricing for each sample shall be submitted on separate Proposal Forms that clearly identify which sample is being priced out. The Proposal Forms shall be submitted at the interview with the Town's Project Building Committee on the evening of December 16, 2010. The Project Building Committee reserves the right to request that additional information be presented at the time of the interview.

Contact

Respondents with questions regarding the submission requirements may contact Jeff Baron, Director of Administrative Services, Town of Newington, 131 Cedar Street, Newington, CT 06111, telephone (860) 665-8513, fax (860) 665-8507. Office hours are 8:30 to 4:30, Monday through Friday. All questions shall be presented at least 72 hours prior to the response deadline to allow for sufficient time to draft and post addenda. Any addenda shall be posted on the Town's website, www.newingtonct.gov, in the Doing Business, Current Bids section at least 48 hours prior to the response deadline.

TECHNICAL SPECIFICATIONS

FOR INFORMATIONAL PURPOSES

ITEM 2-122: ATHLETIC FIELD SUBSURFACE DRAINAGE SYSTEM (BY OTHERS)

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Furnish all labor, equipment and materials to install the Athletic Field Subsurface Drainage System, consisting of perimeter underdrain/collector pipe, edge channel drain, geotextile, composite flat drains, bottom and top layer stone bases all as indicated on the Contract Drawings and as specified herein.
- B. Coordinate Work with Owner's artificial grass field turf contractor.

1.2 REFERENCES

- A. Comply with applicable requirements of the following standards. Should the standards conflict with other specified requirements, the most restrictive requirement shall govern.
 - 1. American Association of State Highway and Transportation Officials (AASHTO).
 - 2. American Society for Testing and materials (ASTM):
 - F 405 Corrugated Polyethylene (PE) Tubing and Fittings
 - F 449 Subsurface Installation of Corrugated Thermoplastic Tubing for Agricultural Drainage or Water Table Control
 - F 667 8,10,12 and 15 - inch Corrugated Polyethylene Tubing and Fittings
 - 3. State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction – Form 816 dated 2004, with latest Supplementals, herein referred to as the Standard Specifications.
 - 4. Occupational Safety and Health Administration (OSHA)

1.3 SUBMITTALS

- A. Provide Shop Drawings for all material to be supplied.
- B. Provide certifications stating that the materials used to comprise the system comply with the requirements.
- C. Provide laboratory test results for sieve analysis, resistance to abrasion, and soundness for all stone materials.

1.4 QUALITY ASSURANCE

- A. All piping and appurtenances shall be new, clean and in accordance with material specifications, unless specifically noted on the plans.
- B. Pipe size and classification shall be as shown on the plans or as specified herein.
- C. Dynamic stone base material gradations shall be submitted for review prior to delivery of any material.

1.5 PRODUCT DELIVERY

- A. Take all required measures to ensure that all piping and related appurtenances are protected from damage.
- B. Special care shall be exercised during delivery and storage to avoid damage or contamination to the products.
- C. All materials shall be delivered and stored within the Contractor's work limits or in an area approved by the Owner.
- D. Products that are damaged will be removed and replaced, unless the product can be repaired in an acceptable manner.
- E. Protect aggregates and base materials from soil contamination.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Perimeter Underdrain/ Collector Pipe:
 - 1. All specific pipe sizes are noted on the Contract Drawings.
 - 2. 4" through 10" solid wall and perforated drain pipe shall be smooth interior wall conforming to AASHTO M 252, Hi-Q, as manufactured by Hancor, Inc., Findlay, Ohio or an approved equal.
 - 3. 12 "through 36" solid wall and perforated drain pipe shall be smooth interior wall conforming to AASHTO M 294 Type S, Hi-Q, as manufactured by Hancor, Inc., Findlay, Ohio or an approved equal.
 - 4. Fittings and couplers shall be split couplings or snap couplings manufactured by the same manufacturer as the corrugated polyethylene pipe.
 - 5. Approved Equal - ADS N-12 as manufactured by Advanced Drainage Systems.
 - 6. Underdrain/Collector Pipe bedding shall conform to # 8 stone of the requirements of Article M01.01 of the Standard Specifications.

- B. Edge Channel Drain shall be System 4000 with color black, high density polymer grate as manufactured by ACO Polymer Products, Inc. Chardon, OH or SportsEdge Pro-S as manufactured by Sportsfield Specialties, Inc., Delhi, NY. Support concrete shall conform to Class C of the Standard Specifications.
- C. Non-woven geotextile and shall be a non-woven needle-punched construction and consist of long-chain polymeric fibers composed of polypropylene, polyethylene or polyamide. The fibers shall be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric shall be free of any chemical treatment or coating, which reduces permeability and shall be inert to chemicals commonly found in soil. The geotextile shall conform to the following minimum average roll values.

Weight	ASTM D-3776	4.0
Tensile Strength	ASTM D-4632	100
Elongation %	ASTM D-4632	50
Puncture, lb	ASTM D-751	50
Mullen Burst, psi	ASTM D-3786	200
Trapezoidal Tear, lb	ASTM D-4533	42
Coefficient of Permeability	ASTM D-4491	.1 cm/sec
Flow Rate, gpm/ft ²	ASTM D-4491	100
Permittivity, 1/sec	ASTM D-4491	1.8
Apparent Opening Size	ASTM D-4751	70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No growth

- D. The composite flat drain shall be made of a high-density polyethylene. The core shall be constructed of polyethylene to provide flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the drain shall conform to the following physical property requirements.

Thickness	ASTM D-1777	1.0 to 1.5 inches
Flow Rate*	ASTM D-4716	20 gpm/ft
Compressive Strength	ASTM D-1621 (modified sand method)	6000 psf

* At gradient = 0.1, pressure = 10 psi for 100 hours

- E. The fittings used with the collection system shall be of a "snap together" design. In no case shall any product be joined without the use of the manufacturer's connector designed specifically for the purpose.

Dynamic Stone Base-Bottom Layer and Dynamic Stone Base-Top Layer shall conform to the following:

1. The material shall consist of durable broken or crushed stone and shall be the product resulting from the artificial crushing of rocks, boulders or large cobblestones, substantially all faces of which have resulted from the crushing operation. Broken or crushed stone shall consist of sound, tough, durable stone (generally basalt, granite, gneiss), reasonably free from soft, thin, elongated, laminated, friable, micaceous or disintegrated pieces, mud, dirt or other deleterious material and shall be sized to meet the requirements of the gradations below for each layer of stone base. The use of reclaimed miscellaneous aggregate will not be allowed for any part of the mixture for these materials.
2. Test for Resistance to Abrasion. Gravel materials shall show a loss on abrasion of not more than 40% using AASHTO Method T 96.
3. Soundness: When tested with magnesium sulfate solution for soundness using AASHTO Method T 104, coarse aggregate shall not have a loss of more than 15% at the end of five cycles.

4. Gradations:

Dynamic Stone Base – Bottom Layer

Sieve Size	Percent Passing By Weight
1 "	100
3/8"	70-100
#4	50-85
#8	30-65
#16	10-50
#30	0-35
#60	0-15
#100	0-8
#200	0-2

Dynamic Stone Base – Top Layer

Sieve Size	Percent Passing by Weight
1/2"	100
3/8"	85-100
#4	60-90
#8	35-75
#16	10-55
#30	0-40
#60	0-15
#100	0-8
#200	0-2

PART 3 EXECUTION

3.1 PREPARATION

- A. Examine the areas and conditions under which the subsurface drainage system work is to be installed. Correct any and all conditions detrimental to the proper completion of the work. Do not proceed with the work until satisfactory conditions have been achieved.
- B. Verify that the subgrade of field is to the proper grades indicated on the contract drawings. Correct all deficiencies as necessary.
- C. Do not proceed with any installations before receiving written approval from the Owner for the material.

3.2 PERIMETER UNDERDRAIN/ COLLECTOR PIPE

- A. Install pipe and bedding in conformance with the Storm Drainage requirements of these specifications and as recommended by the pipe manufacturer.
- B. Excavation for installation of pipes shall be in trenches to the lines, grades and widths as per the Contract Drawings and in accordance with Safety and Health Regulations (OSHA).
- C. After installation of pipe, inspect to determine whether line displacement or other damage has occurred.
- D. Make inspections after lines have been installed prior to backfilling and during the backfilling process and again at the completion of backfilling. Backfill material shall conform to the material as specified on the contract drawings.
- E. If inspection indicates poor alignment, debris, displaced pipe, infiltration or other defects, take whatever steps are necessary to correct such defects.

3.3 GEOTEXTILE

- A. The geotextile fabric shall be installed as per manufacturer's recommendations on the entire surface of the finished subgrade.

3.4 COMPOSITE FLAT DRAIN

- A. The composite flat drain system shall be installed true to line and grade in accordance with the manufacturer's recommendations and in conformance with the contract drawings.

3.5 EDGE CHANNEL DRAIN

- A. The edge channel drain system shall be installed true to line and grade in accordance with the manufacturer's recommendations and in conformance with the contract drawings.
- B. Form and place support concrete to a smooth surface and true edge to allow for the proper anchor attachment of the synthetic athletic field surface. Refer to turf manufacturer and the contract drawings to establish the correct top of concrete elevation.

3.6 STONE BASES

- A. Upon the completion of constructing an approved field subgrade, the contractor shall install both the bottom and top dynamic stone base layers within a 20'x20' test area for the purpose of determining that the contractor means and methods of placing the material conforms to the following requirements:
 - 1. Compaction of both layers: The dry density after compaction shall be 95% of the dry density for the material being tested in accordance with Modified Proctor procedure according to ASTM 1557.
 - 2. Permeability of base bottom layer shall be greater than 50 in. /hr (3.5×10^{-2} cm/ sec.)
 - 3. Permeability of base top layer shall be greater than 10 in. /hr (7.0×10^{-3} cm/ sec.)
 - 4. Porosity of both layers shall be greater than 25% (When base is saturated and compacted to 95% proctor.
- B. The above testing and any subsequent retesting shall be preformed by an independent testing laboratory with the cost borne by the Contractor.
- C. When the results of the above testing requirements are not satisfactory to the Engineer, the Contractor shall adjust his procedure as required to attain the necessary results.
- D. Upon desired test results and approval from the Engineer, the contractor may proceed with the complete installation of bottom layer stone base and then the top layer stone base following the approved installation procedure.
- E. The surface of each stone base layer shall be formed to meet the design elevations to within 1/2" and the surface shall not deviate more than 1/4" over 10' in any direction.
- F. Check surface tolerance prior to installation of synthetic athletic surface.

ITEM 2-131 - SYNTHETIC IN-FILLED ATHLETIC TURF SURFACE

PART 1 GENERAL

1.1 WORK INCLUDED

Furnish all labor, materials, tools and equipment necessary to install monofilament artificial grass field turf as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the manufacturer's installation instructions and in accordance with the Contract Documents.

Provide written acceptance of compaction, permeability and planarity of base material.

Perimeter edge details required for the system shall be as detailed and in strict accordance with the manufacturer's requirements, and as approved by the Owner.

1.2 RELATED SECTIONS

A. Section 2-122 – Athletic Field Subsurface Drainage System

1.3 REFERENCES

A. FM P7825 - Approval Guide; Factory Mutual Research Corporation; current edition

B. ASTM Standard Test Methods:

D1577 - Standard Test Method for Linear Density of Textile Fiber

D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor
Covering

D418 - Standard Test Method for Testing Pile Yarn Floor Covering Construction

D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings

D1682 - Standard Method of Test for Breaking Load and Elongation of Textile
Fabrics

D5034 - Standard Test Method of Breaking Strength and Elongation of Textile
Fabrics (Grab Test)

F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf
Playing Surfaces

D4491 - Standard Test Methods for Water Permeability of Geotextiles by
Permittivity

D2859 - Standard Test Method for Ignition Characteristics of Finished Textile
Floor Covering Materials

F355 - Standard Test Method for Shock-Absorbing Properties of Playing
Surfaces.

F1936 - Standard Test Method for Shock-Absorbing Properties of North
American Football Field Playing Systems as Measured in the Field

D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.

- C. Current NCAA Rules and Interpretations
- D. Current "Suggested Guidelines for the Essential Elements of Synthetic Turf Systems" of the Synthetic Turf Council (STC).

1.4 SUBMITTALS

- A. See "Submittal Procedures" of the Supplemental Provisions.
- B. Prior to the Engineer/Landscape Architect's approval of a specified artificial turf system, the Manufacturer shall specify in writing that their turf system does not violate any other manufacturer's patents, patents allowed or patents pending.
- C. Submit the following with the Proposal:
 - 1. Submit one sample, 6x6 inch in size, illustrating details of finished product.
 - 2. A letter and specification sheet certifying that the products of this section meet or exceed specified requirements.
 - 3. Certified copies of independent (third-party) laboratory reports on ASTM tests as follows:
 - a) Pile Height, Face Weight & Total Fabric Weight, ASTM D418 or D5848
 - b) Primary & Secondary Backing Weights, ASTM D418 or D5848
 - c) Tuft Bind, ASTM D1335
 - d) Grab Tear Strength, ASTM D1682 or D5034
 - 4. List of existing installations in Connecticut and surrounding states, including Owner representative and telephone number,
 - 5. The turf Contractor and turf Manufacturer shall provide evidence that their turf system does not violate any other manufacturer's patents, patents allowed, or patents pending.
 - 6. The turf manufacturer shall provide a sample copy of insured, non-prorated warranty and insurance policy information.
- D. Prior to ordering of materials:
 - 1. The Contractor shall submit Shop Drawings indicating:

- a) Field Layout, as directed by the Owner.
 - b) Field Marking Plan and details for the specified sports; i.e., NFHSA/CIAC Football.
 - c) Roll/Seaming Layout
 - d) Methods of attachment, field openings and perimeter conditions.
 - 2. The turf manufacturer shall submit the fiber manufacturer's name, type of fiber and composition of fiber.
- E. Prior to Final Acceptance, the Contractor shall submit to the Owner:
- 1. Three (3) copies of Maintenance Manuals, which will include all necessary instructions for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.
 - 2. The testing data and certification from an approved independent testing laboratory that the finished field meets the required impact attenuation G-max, as per ASTM F1936 and these specifications.
 - 3. Project Record Documents: Record actual locations of seams, drains or other pertinent information.
 - 4. Warranty: Submit Manufacturer Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company whose primary business specializes in manufacturing and installing products specified in this section. The turf manufacturer/installation contractor:
- 1. Must be experienced in the manufacture and self-installation of this specific type of synthetic sand-rubber infill monofilament grass system for at least five years in the United States.
 - 2. Must have experience with NCAA and CIAC football/soccer field installed with the product specified in these Contract Documents.
 - 3. Must have a football/soccer field of 75,000 sq. ft or more of the specified material, including the infill material and fiber, in play for at least three years.
 - 4. Must have five fields in play in a northeast climate for the past two years, utilizing the same fiber and fiber manufacturer that is being proposed for this field.

- B. Installer Qualifications: Company specializing in performing the work of this section.
1. The turf contractor must provide competent workmen skilled in this specific type of synthetic grass installation. Such employees shall be directly employed by the turf manufacturer or by a licensee of the manufacturer installing the manufacturer's products as the principal turf product. Independent subcontractors shall not be permitted. Evidence of such employment shall be submitted to the Owner prior to the installation of the turf.
 2. The designated supervisory personnel on the project must have five years of experience and be certified, in writing by the turf manufacturer, as competent in the installation of this monofilament material, including sewing seams and proper installation of the infill mixture.
 3. The manufacturer shall have a representative on site to certify the installation and Warranty compliance.

1.6 PRE-INSTALLATION MEETING

- A. Convene one week before starting work of this section.

1.7 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver products to project site in wrapped condition.
- B. Store products under cover and elevated above grade.

1.8 WARRANTIES

- A. See "Closeout Submittals" of the Supplemental Provisions, for additional warranty requirements.
- B. The turf manufacturer shall provide a warranty to the owner that covers defects in materials and workmanship of the turf for a period of 8 years from the date of Substantial Completion. The turf manufacturer shall verify in writing to the Owner that their onsite representative has inspected the installation and that the work conforms to the manufacturer's requirements.
- C. The Manufacturer's Warranty shall include general wear and damage caused from UV degradation.
- D. The turf manufacturer's warranty must be supported by a pre-paid insurance policy for the full eight (8) year period from an insurance company with an AM Best rating of A++, no maximum limit on a single claim, no deductible or retention amount per claim.

- E. The turf Contractor shall provide a warranty to the owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the Manufacturer's recommendations and any written directives of the manufacturer's onsite representative.

The artificial grass field turf must maintain an ASTM F355/ ASTM F1936 G-max of between 125-200 for the life of the Warranty.

The manufacturer for the synthetic turf shall provide a third party insurance policy acceptable to the Owner for the field from an insurance company having at least an A+ rating for a full eight (8) year period to support the manufacturer's warranty and the requirements of these Specifications. The insurance policy shall be in favor of the Owner and shall be specific to the project site; shall not have any deductible; shall be pre-paid and non-cancelable for the length of the policy. The policy shall have a minimum per claim of \$500,000, per occurrence, and an aggregate of \$5,000,000.

A draft copy of the full policy shall be submitted by each bidder with their bid and shall indicate that such coverage is now in effect, or will be in effect at the time of the execution of the contract with the Owner. The synthetic turf manufacturer shall also submit a signed Affidavit affirming the warranty requirements of these Specifications. The effective date of the policy shall begin at the time of substantial completion of the field and shall terminate eight (8) years thereafter.

1.9 MAINTENANCE SERVICE

- A. The turf Contractor will train the Owner's facility maintenance staff in the use of the turf Manufacturer's recommended groomer.

PART 2 PRODUCTS

2.1 MATERIALS

- A. The component materials of the artificial grass field turf system consist of:
1. A Carpet made of UV-resistant polyethylene monofilament fibers tufted into a fibrous, either perforated or non-perforated, porous backing.
 2. An infill that is a controlled mixture of graded sand and cryogenically produced rubber crumb that partially covers the carpet. Rubber products shall come only from United States or Canadian sources.
 3. Glue, thread, paint, seaming fabric and other materials used to install and mark the artificial grass monofilament field turf.

- B. The installed artificial grass monofilament field turf shall have at a minimum the following properties:

Standard	Property	Specification
ASTM D1907	Fiber Denier	8000 nominal
ASTM D418/D5848	Pile Height	2.5 nominal
ASTM D418/D5848	Pile Weight	35oz./sq. yd.
ASTM D1335	Tuft Bind	7 lbs. (without infill)
ASTM D1682/D5034	Grab Tear (width)	>200 lbs/force
ASTM D1682/D5034	Grab Tear (length)	>200 lbs/force
ASTM D4491	Carpet Permeability	>35 inches/hour
ASTM F1936	Impact Attenuation, Gmax	≥115-125 @installation
		≤200 over field life

- C. The Carpet shall consist of polyethylene monofilament fibers tufted into a primary backing with a secondary backing.
1. The Carpet shall be furnished in 15' wide rolls. Rolls shall be long enough to go from sideline to sideline without splicing. If football markings are to be installed, the perimeter white line shall be tufted into the individual sideline rolls. Head seams, other than at sidelines, will not be acceptable.
 2. The Carpet's primary backing shall be a double-layered polypropylene fabric treated with UV inhibitors. The secondary backing shall consist of an application of porous, heat-activated urethane to permanently lock the fiber tufts in place.
 3. The fiber shall be low friction, UV-resistant fiber measuring not less than 2.5 inches high nominal. Systems with less than a 2.5-inch (nominal) fiber and/or shock pad enhancements will not be accepted.
- D. The infill materials shall be approved by the Manufacturer. The infill shall consist of a resilient layered granular system, comprising selected and graded dust-free silica sand and cryogenically produced rubber crumb free of foreign material. The amount of sand may vary with the manufacturer's product.
- E. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf Manufacturer.
- F. Thread for sewing seams of turf shall be as recommended by the synthetic turf Manufacturer.
- G. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf Manufacturer.

2.3 FIELD GROOMER

- A. Supply a field groomer, which shall include a towing mechanism compatible with a field utility vehicle.
- B. The field groomer shall be a 7-foot RT Groomer by Sportsfield Specialties, Delhi, NY.

PART 3 EXECUTION

3.1 GENERAL

- A. The installation shall be performed in full compliance with the Contract Documents, approved Shop Drawings and the instructions of the manufacture.
- B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, and topdressing or brushing operations.
- C. All designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association, NFHSA, USSF, and CIAC rules, and/or any other rules or standards that may apply to this type of synthetic grass installation. All designs, markings and layouts must first be approved by the Engineer or Owner in the form of an approved shop drawings. All markings will be installed in full compliance with those drawings. Prior to the beginning of installation, the turf contractor for the synthetic turf shall inspect and accept the sub-base for planarity. The turf contractor shall also accept in writing that the dynamic stone base is in compliance with the synthetic turf manufacturer's specifications for permeability, compaction and gradation after the owner provides him with all test results. The turf contractor shall have the dimensions of the field and locations for markings measured by a registered surveyor to verify conformity to the specifications and applicable standards. A record of the finished field as-built measurements shall be made.
- D. The installed base material will be tested for permeability prior to the installation of the synthetic turf using a double ring infiltrometer or similar testing equipment.
- E. The turf Contractor shall provide the necessary testing data to the owner that the finished field meets the required shock attenuation, as per ASTM F1936.

3.2 EXAMINATION

- A. Verify that all sub-base leveling is complete prior to installation.
- B. The surface to receive the synthetic turf shall be inspected by the Installer, and prior to the beginning of installation, the Installer must accept the sub-base

planarity in writing. The acceptance will depend on the owner providing the installer with test results indicating that compaction and planarity are in compliance with the synthetic turf manufacturer's specifications. The surface must be perfectly clean as installation commences and shall be maintained in that condition throughout the process.

- C. The compaction of the base material shall be 95%, according to the Modified Proctor procedure (ASTM D1557), and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2" from design grade.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions. The turf Contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the Manufacturer's on-site representative, and submitted to the Architect/Owner, verifying that the changes do not in any way affect the warranty. Infill materials shall be approved by the Manufacturer and installed in accordance with the Manufacturer's standard procedures.
- B. The carpet rolls are to be installed directly over the properly prepared aggregate base and fastened to the concrete curb or edge drain as shown on the plans. Extreme care should be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity. It is suggested that a 2-5 ton static roller is on site and available to repair and properly compact any disturbed areas of the aggregate base.
- C. The full width rolls shall be laid out across the field. Turf shall be of sufficient length to permit full cross-field installation from sideline to sideline. No head or cross seams will be allowed in the main playing area between the sidelines. Utilizing standard state of the art sewing procedures each roll shall be attached to the next. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing field turf.
- D. This is a 99% sewn installation. Gluing of rolls shall not be acceptable. Minimum gluing will only be permitted to repair problem areas, corner completions, and to cut in any logos or inlaid lines as required by the specifications. All seams shall be sewn using double bagger stitches and polyester thread or, in the case of inlays only, adhered using seaming tape and high grade adhesive (per the manufacturer's standard procedures). Seams shall be flat, tight, and permanent with no separation or fraying.
- E. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied. The infill material shall be installed to a depth indicated on the drawings.

- F. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The infill installation consists of a base layer of sand followed by a homogenous mixture of the sand and the processed rubber. The infill shall be installed to the depth indicated on the contract drawings. Infill density shall consist of no more than 7 pounds of sand and at least 3 pounds of rubber per square foot. The infill shall be placed to expose the fibers to the depth indicated on the contract drawings.
- G. Prior to the application of any line painting the turf shall be fibrillated by means of a nylon rotary brush to provide the look, feel, and safety of optimally maintained natural grass, including subtle undulations normally associated with natural grass athletic fields.
- H. Non-tufted or inlaid lines and markings shall be painted according to the recommendations of the turf Manufacturer and of the paint manufacturer. Several applications may be required.
- I. Synthetic turf shall be attached to the perimeter edge detail in accordance with the Manufacturer's standard procedures.

3.4 FIELD MARKINGS

- A. All markings to be installed in accordance with the contract drawings and approved shop drawings.

3.5 CLEANING

- A. Protect installed field turf from subsequent construction operations.
- B. Do not permit traffic over unprotected field surface.
- C. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.
- D. All usable remnants of new material shall become the property of the Owner.
- E. The Contractor shall keep the area clean throughout the project and clear of debris.
- F. Surfaces, recesses, enclosures, etc., shall be cleaned, as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

3.6 ANNUAL INSPECTION AND REPORTING BY TURF MANUFACTURER

- A. On or before the annual anniversary date of acceptance of the synthetic turf by the Owner for the term of the Warranty, the turf manufacturer or its authorized

representative at no cost to the Owner shall inspect the field to identify deficiencies that may be apparent and that could have an effect on the terms and conditions of the Warranty. In addition, the turf manufacturer shall engage the services of an independent testing laboratory to test the impact attenuation G-max, per ASTM F1936 of the field and advise the Owner of measures to be taken to maintain the G-max within the acceptable limits.

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PROPOSAL FORM

**CLEM LEMIRE RECREATIONAL COMPLEX
SYNTHETIC ATHLETIC TURF
NEWINGTON, CONNECTICUT**

PROPOSAL FORM

FROM: _____
Synthetic Turf Manufacturer

TO: Town Manager
Town of Newington
131 Cedar Street
Newington, Connecticut 06111

Ladies and Gentlemen:

The undersigned having carefully examined the Request for Proposal requirements, Drawings, and Project Specifications prepared by Milone & MacBroom, Inc. hereby offers and agrees as follows:

To provide all labor, materials, equipment, and all else necessary to supply and install synthetic athletic turf at the football-soccer field at Clem Lemire Recreational Complex in accordance with the Proposal Documents.

TOTAL LUMP SUM PROPOSAL BASE PRICE

WRITTEN IN WORDS _____
_____ **DOLLARS**

WRITTEN IN FIGURES \$ _____

ALTERNATE PROPOSAL ITEMS

The undersigned Synthetic Turf Manufacturer further proposes and agrees that should any or all the following Alternates be accepted and included in the Contract, the amount of the Total Lump Sum Proposal Base Price, as heretofore stated, shall be adjusted by the amounts stated for the accepted Alternate(s). All materials and workmanship shall be in strict accordance with the Drawings and Specifications and shall be "in-place" prices including all overhead and profit.

ALTERNATE BID ITEM NO. A 1

ITEM NO.	ALTERNATE BID ITEM DESCRIPTION (ITEM PRICE IN WORDS – DOLLARS AND CENTS)	ITEM PRICE (IN FIGURES)
A 1	ADD ALTERNATE NO. 1 SOCCER INLAID FIELD LINE MARKINGS _____per LS	\$

SUBMITTED BY:

Synthetic Turf Manufacturer

Address

City and State

Authorized Agent Title

Date:_____

Phone:_____

Fax:_____

Enclosures:

Included with this proposal are:

1. Qualifications
2. Sample of Synthetic Turf
3. A draft copy of the full warranty policy and forms

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